

# Goals for Breakout Sessions

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# Six Breakout Areas: Three Modality

***Focus Question: What can be measured over time?***

- **Area #1: X-Ray & X-Ray CT**

(Disease models: Lung Cancer, Bone Imaging and Osteoarthritis)

***Chair -- Charles Peterfy, MD***

**Employees Lounge**

- **Area #2: PET & PET CT**

(Disease models: Alzheimer's Disease and Lung Cancer)

***Chair -- Paul Kinahan, PhD***

**Red Auditorium**

- **Area #3: MRI, MRS, DCE and Diffusion MRI**

(Disease models: Cardiology, Oncology, Osteoarthritis)

***Chair -- Jeffrey L. Evelhoch, PhD***

**Green Aud / LR B**

# Six Breakout Areas: Three Info Tech

***Focus Question: What are data issues over time?***

- **Area #4: Open architecture and software tools:**  
Image and meta-data collection and analysis,  
data integration and display

***Chair -- Larry Tarbox, PhD***

**LR C**

- **Area #5: Resources for qualification of imaging systems,**  
benchmarking of image processing and data integration tools,  
and related statistical methods.

***Chair -- Nick Petrick, PhD***

**LR A**

- **Area #6: Data archival and access methods:**  
Image, related meta-data and clinical outcome data,  
related data interoperability standards, and innovative  
methodologies for data interpretation.

***Chair – Mike Vannier, MD***

**LR E / A427**

# Output from this Workshop: Part I

## “Big Picture” Road Map of the Technology Challenges to Enable Imaging as a Biomarker

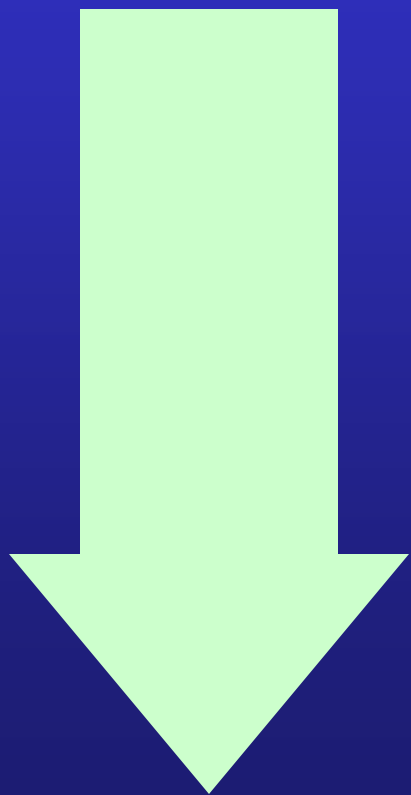
*When will X be needed  
in Clinic or Industry?*

Near Term: 1-3 years

Mid Term: 3-5 years

Long Term: 5+ years

Include emerging modalities



## For Each Breakout Area Develop Key Points for each Challenge by Time Frame

### 1. *State the Innovation or Challenge Needed:*

- ☐ Impact of Success: *Describe what it looks like?*
- ☐ Technical Barriers: *What can't be done now & why?*
- ☐ Key Players: *Who would be the ideal team & why?*

### 2. *State the Innovation or Challenge Needed:*

- ☐ Impact of Success:
- ☐ Technical Barriers:
- ☐ Key Players:

### 3. *State the Innovation or Challenge Needed:*

- ☐ etc.

**For Each Breakout Area**  
**Develop Key Points for each Challenge by Time Frame**  
**“Big Picture Roadmap – The What by When?”**

<b>Innovation or Challenge</b>	<b>Impact of Success / Economic Significance</b>	<b>Technical Barrier to Innovation or Challenge</b>	<b>Measurement Science or Standards Issue of the Barrier</b>	<b>Key Players</b>	<b>Timeframe</b>
1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	<b>Near-Term</b> 1-3 years
4. 5. 6.	4. 5. 6.	4. 5. 6.	4. 5. 6.	4. 5. 6.	<b>Mid-Term</b> 3-5 years
7. 8. 9.	7. 8. 9.	7. 8. 9.	7. 8. 9.	7. 8. 9.	<b>Long-Term</b> 5+ years

**For Each Breakout Area  
Develop Key Points for each Challenge by Timeframe**

*Fill in the Innovation/Challenge template for  
Near-Term, Mid-Term and Long-Term,  
and report out a minimum of  
the “top three” challenges in each timeframe.*

*1. State the Innovation or Challenge Needed:*

*Technically describe/define the innovation needed*

- ☐ Impact of Success: *What does success look like?*
- ☐ Technical Barriers: *What can't be done now & why?*
- ☐ Key Players: *Who would be the ideal team & why?*

## Output from this Workshop: Part II Detailed Measurement Need One-Pagers

*What are the measurement science or standards barriers to the technology challenge?*

- What is the Technology at Issue?
- What is the Technology Innovation at Stake?
- What is the Economic Significance of Innovation?
- What is the Technical Barrier to the Innovation?
- What Stage of Innovation Does the Barrier Appear?  
(R&D, Production, Marketplace, End Use)
- What is the Measurement-Problem Part of Technical Barrier?
- What are Potential Solutions to the Measurement Problem?
- Who are Potential Providers of Solutions? Stakeholders?
- What is the role for Government, if Any?



# Focus on the Technological Innovation Needs for Change Measurements Over Time with Imaging

*What are the measurement barriers to technological innovation?*

Research → Production → Market → End Use

Discovery / Invention  
Development

Manufacture

Sale

Function/  
Benefit

“Innovation will be the single most important factor in  
determining America’s success through the 21st century”

--- U.S. Council on Competitiveness

## For Each Breakout Area: Near & Mid-Term Only Develop Detailed Measurement Science & Standards Needs

1. *Technology at Issue:*
2. *Submitter(s):* Participants of Breakout Area #
3. *Technological Innovation at Stake:*
4. *Economic Significance of Innovation:*
5. *Technical Barrier to the Innovation:*
6. *Stage of Innovation Where Barrier Appears:*

**For Each Breakout Area: Near & Mid-Term Only  
Develop Detailed Measurement Science & Standards Needs**

7. *Measurement-Problem Part of Technical Barrier.*
8. *Potential Solutions to Measurement Problem:*
9. *Potential Providers of Solutions & Key Stakeholders:*
10. *What is the role for Government, if Any?:*
11. *If There is a Government Role, Why Industry Says It Can't / Won't Pay for That Part of Solution:*

**Output from this Workshop: Part II**  
**Detailed Measurement Need One-Pagers**

*What are the measurement science or standards barriers to the technology challenge?*

*Review the Innovation/Challenge template for Near-Term and Mid-Term from Day 1*

*Choose 1-2 Innovation/Challenges to Expand using the Measurement Need Template Questions*

*Report out a minimum of ONE  
Detailed Measurement Need per Breakout Topic Area  
(more can be developed during or after the workshop)*

**GO !!!!**

**ENJOY THE**

**DISCUSSIONS**

**FOCUS !!!!**